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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/531,075

04/12/2005

Hiroko Kuno

050136

2558

23850

7590

04/06/2007

ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP

1725 K STREET, NW

SUITE 1000

WASHINGTON, DC 20006

EXAMINER

JACKSON, MONIQUE R

ART UNIT

PAPER NUMBER

1773

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/06/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/531,075

Applicant(s)

KUNO, HIROKO

Examiner

Monique R. Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 4/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "in the form of fine particles" in claim 1 is a relative term which renders the claim indefinite. The term "fine" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Hence, it is unclear what particle size is required in order to satisfy the term "fine" particles. Further the term "film- or board-like matrix material" in Claims 4-5 is unclear. Is the matrix material "film-like" or "board-like"? What aspects make it like a film or board? Size, shape, thickness? Would a tube be considered "board-like"?

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeda et al (USPN 6,319,613.) Takeda et al teach a solution for forming a film having a high transmittance and a low reflectivity for visible light and a low transmittance for near infrared radiation

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comprising fine particles of a hexaboride of Y, La, Ce, Pr, Nd, Sm, Eu, Gd, Th, Dy, Ho, Er, Tm, Yb, Lu, Sr or Ca, and fine particles of ITO or ATO in a weight ratio of from 0.1:99.9 to 90:10, in a particle size up to 200 nm, and further comprising a binder such as a thermoplastic resin or curable resins such as epoxy, urethane-, polyester-, or polyether- acrylate resins; wherein the coating can be applied to at least one side of a resin film as a base to form a thin, uniform film for cutting off solar heat radiation (Abstract; Col. 3-5.) Takeda et al also provide examples having a particle content that would fall within the instantly claimed concentration ranges and specifically provide transmittance values that are within the claimed ranges of instant claim 2. Takeda et al further teach that that visible light transmittance and the solar radiation transmittance are controlled by the amount and ratio of fine particles added to the coating (Examples.)

5. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Fisher (USPN 6,620,872.) Fisher teaches an infrared absorbing polyvinyl butyral composition comprising a polyvinyl butyral (PVB) resin, which is formed by the reaction of polyvinylalcohol and butyraldehyde and typically comprises about 10-25wt% of PVOH in the final PVB; and an infrared absorbing effective amount of fine particles of (i) lanthanum hexaboride present in an amount between about 0.005 and about 0.1 percent by weight of the composition, or (ii) a mixture of lanthanum hexaboride present in an amount between about 0.001 and about 0.1 percent by weight of the composition and at least one of indium tin oxide and antimony tin oxide, said indium tin oxide and/or antimony tin oxide present in said mixture in an amount of about 0.05 to about 2.0 percent by weight of the composition dispersed in said PVB (Abstract; Col. 3; Claim 1.) Fisher teaches that the composition may be utilized to produce a visually

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transparent sheet of PVB or utilized as an IR absorbing interlayer sandwiched between two sheets of glass (Abstract.) Fisher also teaches that while PVB is the preferred resin used in the present invention, other polymers which may be used to form interlayer sheets of glass laminates could be substituted for PVB, and specifically refers to the known use of PVB and ethylene-vinyl acetate as interlayer materials in the background section (Col. 3, lines 38-42; Col. 1, lines 48-63.) In addition, Fisher provides examples having a composition that reads upon the claimed invention including visual transmission and solar transmission values that read upon the claimed ranges in instant claim 2 (Examples.)

6. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Kondo (USPN 5,830,568.) Kondo teaches a laminated glass comprising first and second transparent glass plates and an interlayer film interposed therebetween, wherein the interlayer film comprising functional ultra-fine particles, preferably antimony tin oxide (ATO) or indium tin oxide (ITO) particles, dispersed therein to provide various additional functions such as heat insulation and ultraviolet ray absorption (Abstract; Col. 3, line 13-Col. 4, line 2.) Kondo teaches that the interlayer film preferably comprises polyvinyl butyral or an ethylene-vinylacetate copolymer and ultra-fine particles in an amount up to 10.0 wt % based on the total weight of said interlayer film (*reads upon the claimed filler content*) to thereby maintain the solar radiation transmittance within a range of up to 65% while the scattering and reflection of the visible light rays is suppressed (Col. 3, lines 19-65.) Kondo specifically teaches that as an automotive glass plate, it is preferable that the laminated glass has a visible light transmittance of at least 68 or 70%, and a solar radiation transmittance of up to 60% (*hence within the claimed ranges of instant Claim 2 and a visible light transmittance that is larger by 10% or more*; Col. 6, lines 12-17.)

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508.

The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Monique R. Jackson  
Primary Examiner  
Technology Center 1700  
April 1, 2007